Remarks

Reconsideration of this Application is respectfully requested.

Upon entry of the foregoing amendment, claims 1-42 are pending in the application, with claims 1, 16, 17, and 36 being the independent claims. Claims 1, 6, 7, 15-17, 24-27, 28, 30, 34, 36, 41 and 42 are sought to be amended. Additionally, the first paragraph of the specification has been amended to clarify the priority claims made therein. These changes are believed to introduce no new matter, and their entry is respectfully requested.

Based on the above amendment and the following remarks, Applicants respectfully request that the Examiner reconsider all outstanding objections and rejections and that they be withdrawn.

Information Disclosure Statement

The Examiner has indicated that the Information Disclosure Statement (IDS) filed on February 9, 2001 fails to comply with the provisions of 37 C.F.R. § 1.97, 1.98 and MPEP § 609 because an incorrect application number and filing date information were included on the Form PTO-1449. Applicants have filed herewith a Supplemental IDS with a Form PTO-1449 that includes all the references cited in the first IDS (as well as several additional references) and includes the correct application number and filing date information.

All of the references cited in the Supplemental IDS were cited by or submitted to the PTO in an IDS that complies with 37 C.F.R. § 1.98(a)-(c) in Application No. 09/574,558, filed May 29, 2000, which is relied upon for an earlier filing date under 35

U.S.C. § 120. Thus, copies of these documents are not attached to the Supplemental IDS, pursuant to 37 C.F.R. § 1.98(d).

Claim Objections

The Examiner objected to claim 15 because it had two periods ".." at the end of the sentence. By the foregoing amendment, one of the two periods has been deleted. Applicants therefore respectfully request that the objection to claim 15 be reconsidered and withdrawn.

The Examiner also objected to claim 34 because it recites "FFT processing" without describing what is meant by the acronym "FFT." By the foregoing amendment, Applicants have amended claim 34 to indicate that "FFT" stands for "Fast Fourier Transform." Based on this amendment, Applicants respectfully request that the objection to claim 34 be reconsidered and withdrawn.

Applicants note that claims 6, 7, 24-26, 41 and 42 have been amended to indicate that the acronym "FEC" stands for "forward error correction" and claim 28 has been amended to indicate that "QAM" stands for "quadrature amplitude modulation" and "QPSK" stands for "quadrature phase shift keying." These changes are believed to introduce no new matter and there entry is respectfully requested.

Rejections under 35 U.S.C. § 103

Claims 1, 3, 5, 8, 11, 13, 14 and 16

The Examiner has rejected claims 1, 3, 5, 8, 11, 13, 14 and 16 under 35 U.S.C. § 103(a) as being unpatentable over U.S. Patent No. 5,963,557 to Eng ("Eng") in view of U.S. Patent No. 6,108,713 to Sambamurthy *et al.* ("Sambamurthy"). For the reasons set forth below, Applicants respectfully traverse.

Eng is directed to a method and system for enabling point-to-point and multicast communication in a network using three types of communication channels—namely, one or more upstream payload channels, one or more upstream control channels and one or more downstream channels. *See* Eng, Abstract. Eng teaches a headend controller that includes a collision detector 290, a mini-slot collection status queue 294 and a contention resolution circuit 234. *See* Eng, FIG. 14. The collision detector 290 receives demodulated control packets from an upstream control channel. Eng, col. 16, ll. 63-67. If, based on the control packets, the collision detector 290 detects a collision between reservation requests of competing subscriber stations[1], then the collision detector 290 inputs collision status information to collision status register 294. Contention resolution circuit 234, which is connected to collision status register 294, generates a control packet message when a collision occurs. Furthermore, according to Eng:

> The contention resolution circuit 234 may also maintain statistics on the number of collisions, which statistics may in turn be used to control when to broadcast a start available mini-slot for new reservation requests or how many mini-slots to make available in a group of mini-slots for new reservation requests. The contention resolution circuit 234 therefore controls how many residual mini-slots are available for retransmitting collided reservation request packets.

Eng, col. 17, ll. 60-67.

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[1] In Eng, a "collision" is defined as an instance where more than one subscriber station attempts to write a reservation request control packet into the same mini-slot on the upstream channel. *See* Eng, col. 4, ll. 33-67.

Claim 1, as presently amended, recites a cable modem termination system for a cable plant that includes:

> a burst receiver for processing data signals having physical layer parameters that control the manner in which the data signals are transmitted on an upstream channel of the cable plant;
>
> a transmitter for sending messages on a downstream channel of the cable plant to cable modems; and
>
> a monitoring circuit for collecting packet based statistics representative of the transmission quality of the upstream channel, the monitoring circuit sending a message to the transmitter for the cable modems to change a physical layer parameter responsive to the collected statistics and to the burst receiver to process data signals based on the changed physical layer parameter.

Eng does not teach or suggest each of the foregoing features of claim 1. For example, Eng does not teach or suggest "collecting packet based statistics representative of the transmission quality of the upstream channel." In Eng, the statistics relating to collisions maintained by the contention resolution circuit 234 are indicative of the amount of traffic on the upstream control channel (i.e., the number of active subscriber stations competing for mini-slots on the upstream control channel). However, the level of traffic on the upstream control channel is *not* the same as the "transmission quality" of the upstream channel as recited in claim 1. The term "channel quality" is clearly defined in the specification of the present application as follows:

> As used herein, channel quality is defined as the ability of a channel to transmit data reliably thereon, such that higher quality channels transmit data reliably at a higher data rate than lower quality channels.

See Specification, p. 69, ll. 28-31. Statistics relating to the amount of traffic on the upstream control channel as described in Eng have nothing to do with the ability of the channel to transmit data reliably at higher data rates versus lower data rates. To put it another way, since changing the data rate of the upstream control channel would not do

anything to improve traffic conditions on the channel, those traffic conditions cannot relate to the "transmission quality" of the channel as that term is used in claim 1. Thus, Eng does not teach or suggest "collecting packet based statistics representative of the transmission quality of the upstream channel" as recited in claim 1.

Furthermore, Eng does not teach or suggest a monitoring circuit that sends "a message to the transmitter for the cable modems to change a physical layer parameter responsive to the collected statistics and to the burst receiver to process data signals based on the changed physical layer parameter" as recited in claim 1. In Eng, the headend controller uses the collision statistics "to control when to broadcast a start available mini-slot for new reservation requests or how many mini-slots to make available in a group of mini-slots for new reservation requests." Eng, col. 17, ll. 60-65. Thus, Eng teaches increasing or decreasing the time interval allocated on the upstream control channel for receiving new reservation requests from the subscriber stations in response to the collision statistics. However, time interval allocation is not a "physical layer parameter" as that term is used in claim 1. As recited in claim 1, physical layer parameters "control the manner in which . . . data signals are transmitted on an upstream channel of the cable plant."[2] In Eng, changing the amount of time allocated on the upstream control channel for receiving reservation requests changes how certain time intervals may be utilized, but does not in any way impact how signals are actually transmitted on the upstream control channel. Moreover, the receiver 254 described in Eng would not process data signals any differently if the time interval allocation for reservation requests were changed. Thus, Eng does not teach or suggest a monitoring

circuit that sends "a message to the transmitter for the cable modems to change a physical layer parameter responsive to the collected statistics and to the burst receiver to process data signals based on the changed physical layer parameter" as recited in claim 1.

The foregoing deficiencies of Eng with respect to claim 1 are not remedied by the teachings of Sambamurthy. Sambamurthy describes an Ethernet MAC in which a Super MAC Management block 117 can synchronize the transmit/receive protocols, and in particular the communication speed, of the transmitter and receiver. *See* Sambamurthy, col. 13, ll. 1-13. Like Eng, Sambamurthy does not teach or suggest "collecting packet based statistics representative of the transmission quality of the upstream channel." Instead, Sambamurthy discusses maintaining statistics relating to processing events occurring within the MAC, although Sambamurthy does not explain how those statistics are used. Sambamurthy, col. 11, ll. 2-8. Furthermore, like Eng, Sambamurthy does not teach or suggest a monitoring circuit that sends "a message to the transmitter for the cable modems to change a physical layer parameter responsive to the collected statistics and to the burst receiver to process data signals based on the changed physical layer parameter" as recited in claim 1. In particular, Sambamurthy is silent in regard "sending a message to the transmitter for the cable modems to change a physical layer parameter" and although Sambamurthy does discuss changing the communication speed of the MAC transmitter and receiver, it does so not in response to collected statistics but instead utilizes an auto-negotiation technique described in IEEE 802.3(u). Sambamurthy, col. 13, ll. 8-13.

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[2] Examples of physical layer parameters set forth in dependent claims 8-12 and 14 include the type of modulation, the coding gain, the symbol rate, the guard time, the constellation size of the

Since the combination of Eng and Sambamurthy fail to teach or suggest each and every feature of claim 1, those references cannot support a prima facie obviousness rejection of that claim. Consequently, the Examiner's rejection of claim 1 under 35 U.S.C. § 103(a) is traversed and Applicants respectfully request that the rejection be reconsidered and withdrawn. Claims 3, 5, 8, 11, 13 and 14 depend from claim 1 and are therefore patentable over the combination of Eng and Sambamurthy for the same reasons as claim 1 and also in view of their own respective features. Consequently, the Examiner's rejections of claims 3, 5, 8, 11, 13 and 14 under 35 U.S.C. § 103(a) are likewise traversed and Applicants respectfully request that these rejections be reconsidered and withdrawn.

Claim 16, as currently amended, recites "a headend terminal for a bidirectional assymetric, transmission system having a downstream channel that broadcasts data from the headend terminal to a plurality of subscriber terminals and an upstream channel that unicasts data from the individual subscriber terminals to the headend terminal" that includes:

> a burst receiver for processing data signals having physical layer parameters that control the manner in which the data signals are transmitted on the upstream channel;
>
> a transmitter for sending messages on the downstream channel; and
>
> a monitoring circuit for collecting statistics about the data signals transmitted on the upstream channel, the statistics representative of the transmission quality of the upstream channel, the monitoring circuit sending a message to the transmitter for the cable modems to change a physical layer parameter responsive to the collected statistics and to the burst receiver to process data signals based on the changed physical layer parameter.

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modulation, and the carrier frequency.

Eng does not teach or suggest each of the foregoing features of claim 16. For example, Eng does not teach or suggest a monitoring circuit for "collecting statistics . . . representative of the transmission quality of the upstream channel." As discussed above in reference to claim 1, the collision statistics maintained by the contention resolution circuit 234 in Eng are indicative of the amount of traffic on the upstream control channel. Such statistics do not relate to the "transmission quality" of the upstream control channel because they have nothing to do with the ability of the channel to transmit data reliably at higher data rates versus lower data rates.

Furthermore, Eng does not teach or suggest a monitoring circuit that sends "a message to the transmitter for the cable modems to change a physical layer parameter responsive to the collected statistics and to the burst receiver to process data signals based on the changed physical layer parameter" as recited in claim 16. As discussed above in reference to claim 1, Eng teaches increasing or decreasing the time interval allocated on the upstream control channel for receiving new reservation requests from the subscriber stations in response to the collision statistics. However, time interval allocation is not a "physical layer parameter" as that term is used in claim 16. As recited in claim 16, physical layer parameters "control the manner in which . . . data signals are transmitted on the upstream channel." In Eng, changing the amount of time allocated on the upstream control channel for receiving reservation requests changes how certain upstream time intervals may be utilized, but does not in any way impact how signals are actually transmitted on the upstream control channel. Moreover, the receiver 254 described in Eng would not process data signals any differently if the bandwidth allocation for reservation requests were changed.

The foregoing deficiencies of Eng with respect to claim 16 are not remedied by the teachings of Sambamurthy. Like Eng, Sambamurthy does not teach or suggest ""collecting statistics . . . representative of the transmission quality of the upstream channel." Instead, as noted above in reference to claim 1, Sambamurthy discusses maintaining statistics relating to processing events occurring within the MAC, although Sambamurthy does not explain how those statistics are used. Furthermore, like Eng, Sambamurthy does not teach or suggest a monitoring circuit that sends "a message to the transmitter for the cable modems to change a physical layer parameter responsive to the collected statistics and to the burst receiver to process data signals based on the changed physical layer parameter" as recited in claim 16. In particular, and as noted above in reference to claim 1, Sambamurthy is silent in regard "sending a message to the transmitter for the cable modems to change a physical layer parameter" and although Sambamurthy does discuss changing the communication speed of the MAC transmitter and receiver, it does not do so in response to collected statistics but instead utilizes an auto-negotiation technique described in IEEE 802.3(u).

Since the combination of Eng and Sambamurthy fail to teach or suggest each and every feature of claim 16, those references cannot support a prima facie obviousness rejection of that claim. Consequently, the Examiner's rejection of claim 16 under 35 U.S.C. § 103(a) is traversed and Applicants respectfully request that the rejection be reconsidered and withdrawn.

Claims 2, 4, 6, 7, 9, 10, 12, and 15

The Examiner has further rejected:

- claim 2 under 35 U.S.C. § 103(a) as being unpatentable over the combination of Eng and Sambamurthy as applied to claim 1 and further in view of U.S. Patent No. 5,995,916 to Nixon *et al.*,

- claims 4, 6, and 7 under 35 U.S.C. § 103(a) as being unpatentable over the combination of Eng and Sambamurthy as applied to claim 1 and further in view of U.S. Patent No. 5,666,358 to Paratore *et al.*,

- claim 9 under 35 U.S.C. § 103(a) as being unpatentable over the combination of Eng and Sambamurthy as applied to claim 1 and further in view of U.S. Patent No. 5,206,864 to McConnell,

- claim 10 under 35 U.S.C. § 103(a) as being unpatentable over the combination of Eng and Sambamurthy as applied to claim 1 and further in view of U.S. Patent No. 6,434,199 to Desrosiers *et al.*,

- claim 12 under 35 U.S.C. § 103(a) as being unpatentable over the combination of Eng and Sambamurthy as applied to claim 1 and further in view of U.S. Patent No. 6,438,174 to Isaksson *et al.*, and

- claim 15 under 35 U.S.C. § 103(a) as being unpatentable over the combination of Eng and Sambamurthy as applied to claim 1 and further in view of U.S. Patent No. 6,246,713 to Mattisson.

See Office Action at ¶¶ 4-9. For the reasons set forth below, Applicants respectfully traverse these rejections.

Each of claims 2, 4, 6, 7, 9, 10, 12 and 15 depends from claim 1 and therefore includes the features of "collecting packet based statistics representative of the transmission quality of the upstream channel" and a monitoring circuit that sends "a message to the transmitter for the cable modems to change a physical layer parameter responsive to the collected statistics and to the burst receiver to process data signals based on the changed physical layer parameter." As noted above, neither Eng nor Sambamurthy teaches or suggests these features. Furthermore, none of the additional references cited by the Examiner in rejecting these dependent claims provides the missing teachings or suggestions. Therefore, the Examiner has not set forth a *prima facie* case of obviousness with respect to any of dependent claims 2, 4, 6, 7, 9, 10, 12 or

15. Accordingly, the Examiner's rejections of these claims are traversed and Applicants respectfully request that the rejections be withdrawn.

Claims 17, 20 and 32

The Examiner has rejected claims 17, 20 and 32 under 35 U.S.C. § 103(a) as being unpatentable over U.S. Patent No. 5,696,765 to Safadi ("Safadi") in view of Eng. For the reasons set forth below, Applicants respectfully traverse.

Safadi is directed to a hybrid MAC system that optimizes the resources of a CATV communication network depending upon the applications and services requested. *See* Safadi, col. 4, ll. 27-30. In Safadi, the MAC system analyzes services requested from a settop terminal (STT) and determines the best MAC component for transmitting upstream based on the resources required by the service and the available network resources. Safadi, col. 3, ll. 44-49. One MAC component disclosed by Safadi performs "random slot reservation-dynamic slot allocation" (RSR-DSA). In accordance with RSR-DSA, a STT may request a time slot in the upstream channel over multiple cycles. Safadi, col. 17, ll. 57-59. If network controller 62 grants the request, it sends an acknowledgement to the requesting STT and a message to all other STTs that the particular time slot has become unavailable. Safadi, col. 17, l. 64-col. 18, l. 1. The network controller 62 must then monitor the channel activity to determine if the requesting STT has terminated communications, thereby released the reserved time slot, so that it can re-assign the time slot to another STT. As noted in Safadi:

> If, while monitoring channel activity (step 412), the network controller 62 determines that there is too much activity over a particular channel (step 320), the network controller 62 adjust the number of time slots 412, and increases the size of the frame 410, or allocates additional frequencies

> (step 322). Transmission efficiency may also be increased by performing ranging which accounts for propagation delays.

Safadi, col. 18, ll. 12-18.

Claim 17, as presently amended, is directed to "a method for transmitting data over a cable system in an upstream direction to a headend from a plurality of subscriber stations located at different distances from the headend such that the transmission paths to the headend are different" that includes the steps of:

> establishing an upstream channel from the subscriber stations to the headend;
>
> monitoring at the headend the transmission quality of the upstream channel;
>
> establishing a downstream channel from the headend to the subscriber stations;
>
> transmitting to the subscriber stations over the downstream channel a command to change the mode of transmission to the headend over the upstream channel if the monitored transmission quality fails to meet a prescribed threshold level;
>
> receiving the command at the subscriber stations; and
>
> transmitting data over the upstream channel from the subscriber stations to the headend in accordance with the changed mode of transmission after receipt of the command.

Safadi does not teach or suggest each of the foregoing features of claim 17. For example, Safadi does not teach or suggest "monitoring at the headend the transmission quality of the upstream channel" as recited in claim 17. In Safadi, the network controller 62 monitors the upstream channel activity to determine if there is too much activity on the channel. However, the amount of activity on the upstream channel is *not* the same as the "transmission quality" of the upstream channel as recited in claim 17. The term

"channel quality" is clearly defined in the specification of the present application as follows:

> As used herein, channel quality is defined as the ability of a channel to transmit data reliably thereon, such that higher quality channels transmit data reliably at a higher data rate than lower quality channels.

See Specification, p. 69, ll. 28-31. Information relating to the amount of activity on the upstream channel as described in Safadi has nothing to do with the ability of the channel to transmit data reliably at higher data rates versus lower data rates. To put it another way, since changing the data rate of the upstream control channel would not do anything to alter the level of activity on the channel, the level of activity cannot relate to the "transmission quality" of the channel as that term is used in claim 17. Thus, Safadi does not teach or suggest "monitoring at the headend the transmission quality of the upstream channel" as recited in claim 17.

Furthermore, as conceded by the Examiner at paragraph 10 of the Office Action, Safadi does not teach or suggest "transmitting to the subscriber stations over the downstream channel a command to change the mode of transmission to the headend over the upstream channel if the monitored transmission quality fails to meet a prescribed threshold level" as recited in claim 17. In Safadi, if the network controller 62 determines that there is too much activity on an upstream channel, it can adjust the number of time slots, increase frame size or allocate additional frequencies on the upstream channel, as well as perform ranging. However, none of these activities involves "transmitting to the subscriber stations over the downstream channel a command to change the mode of transmission to the headend over the upstream channel" as recited in claim 17.

The foregoing deficiencies of Safadi with respect to claim 17 are not remedied by the teachings of Eng. As noted above with regard to claims 1 and 16, Eng does not teach

or suggest "monitoring at the headend the transmission quality of the upstream channel," since Eng only maintains statistics relating to the level of traffic on the upstream control channel. Furthermore, Eng does not teach "transmitting to the subscriber stations over the downstream channel a command to change the mode of transmission to the headend over the upstream channel" as recited in claim 17. As discussed above in reference to claims 1 and 16, Eng teaches increasing or decreasing the time interval allocated on the upstream control channel for receiving new reservation requests from the subscriber stations in response to the collision statistics. This does note involve "transmitting to the subscriber stations over the downstream channel a command to change the mode of transmission to the headend over the upstream channel" as recited in claim 17.

Since the combination of Safadi and Eng fail to teach or suggest each and every feature of claim 17, those references cannot support a prima facie obviousness rejection of that claim. Consequently, the Examiner's rejection of claim 17 under 35 U.S.C. § 103(a) is traversed and Applicants respectfully request that the rejection be reconsidered and withdrawn. Claims 20 and 32 depend from claim 17 and are therefore patentable over the combination of Safadi and Eng for the same reasons as claim 17 and also in view of their own respective features. Consequently, the Examiner's rejections of claims 17, 20 and 32 under 35 U.S.C. § 103(a) are likewise traversed and Applicants respectfully request that these rejections be reconsidered and withdrawn.

Claims 18, 19, 21-29 and 33

The Examiner has further rejected:

- claims 18 and 19 under 35 U.S.C. § 103(a) as being unpatentable over the combination of Safadi and Eng as applied to claim 17 and further in view of U.S. Patent No. 6,011,970 to McCarthy,

- claim 21 under 35 U.S.C. § 103(a) as being unpatentable over the combination of Safadi and Eng applied to claim 17 and further in view of U.S. Patent No. 5,995,916 to Nixon *et al.*,

- claims 22 and 24-26 under 35 U.S.C. § 103(a) as being unpatentable over the combination of Safadi and Eng as applied to claim 17 and further in view of U.S. Patent No. U.S. Patent No. 5,666,358 to Paratore *et al.*,

- claim 23 under 35 U.S.C. § 103(a) as being unpatentable over the combination of Safadi and Eng as applied to claim 17 and further in view of Sambamurthy,

- claims 27, 28 and 29 under 35 U.S.C. § 103(a) as being unpatentable over the combination of Safadi and Eng as applied to claim 17 and further in view of U.S. Patent No. 6,480,477 to Treadaway *et al.*, and

- claim 33 under 35 U.S.C. § 103(a) as being unpatentable over the combination of Safadi and Eng as applied to claim 17 and further in view of U.S. Patent No. 5,491,725 to White.

See Office Action at ¶¶ 11-16. For the reasons set forth below, Applicants respectfully traverse these rejections.

Each of claims 18, 19, 21-29 and 33 depends from claim 17 and therefore includes the features of "monitoring at the headend the transmission quality of the upstream channel" and "transmitting to the subscriber stations over the downstream channel a command to change the mode of transmission to the headend over the upstream channel." As noted above, neither Safadi nor Eng teaches or suggests these features. Furthermore, none of the additional references cited by the Examiner in rejecting these dependent claims provides the missing teachings or suggestions. Therefore, the Examiner has not set forth a *prima facie* case of obviousness with respect to any of dependent claims 18, 19, 21-29 and 33. Accordingly, the Examiner's rejections of these claims are traversed and Applicants respectfully request that the rejections be withdrawn.

Claim 36

The Examiner has rejected claim 36 under 35 U.S.C. § 103(a) as being unpatentable over Eng in view of U.S. Patent No. 5,572,511 to Ouyang *et al.* ("Ouyang"). For the reasons set forth below, Applicants respectfully traverse.

Claim 36, as presently amended, recites "a cable modem termination system" having:

> an upstream channel shared among a plurality of cable modems and a burst receiver connected to the upstream channel to process physical layer signals transmitted on the upstream channel,
>
> a monitoring circuit for collecting packet based statistics representative of the transmission quality of the upstream channel, the monitoring circuit comprising
>
> an input for receiving the physical layer signals from the burst receiver,
>
> means for sensing parameters that control the manner of transmission of the physical layer signals, and
>
> a plurality of counters for collecting the sensed physical layer parameters.

Eng does not teach or suggest each of the foregoing features of claim 36. For example, for reasons set forth above with respect to claims 1 and 16, Eng does not teach or suggest "a monitoring circuit for collecting packet based statistics representative of the transmission quality of the upstream channel." Ouyang, which is directed to a circuit for performing collision detection on an Ethernet, does not supply the missing teaching. Since the combination of Eng and Ouyang fail to teach or suggest each and every feature of claim 36, those references cannot support a prima facie obviousness rejection of that claim. Consequently, the Examiner's rejection of claim 36 under 35 U.S.C. § 103(a) is

traversed and Applicants respectfully request that the rejection be reconsidered and withdrawn.

Claims 37-42

The Examiner has further rejected:

- claim 37 under 35 U.S.C. § 103(a) as being unpatentable over the combination of Eng and Ouyang as applied to claim 36 and further in view of U.S. Patent No. 5,995,916 to Nixon *et al.*,

- claims 38 and 40 under 35 U.S.C. § 103(a) as being unpatentable over the combination of Eng and Ouyang as applied to claim 36 and further in view of Sambamurthy ,

- claims 39, 41 and 42 under 35 U.S.C. § 103(a) as being unpatentable over the combination of Eng and Ouyang as applied to claim 36 and further in view of U.S. Patent No. 5,666,358 to Paratore *et al.*

See Office Action at ¶¶ 18-20. For the reasons set forth below, Applicants respectfully traverse these rejections.

Each of claims 37-42 depends from claim 36 and therefore includes the feature of "a monitoring circuit for collecting packet based statistics representative of the transmission quality of the upstream channel." As noted above with regard to claim 36, neither Eng nor Ouyang teaches or suggests this feature. Furthermore, none of the additional references cited by the Examiner in rejecting these dependent claims provides the missing teaching or suggestion. Therefore, the Examiner has not set forth a *prima facie* case of obviousness with respect to any of dependent claims 37-42. Accordingly, the Examiner's rejections of these claims are traversed and Applicants respectfully request that the rejections be withdrawn.

Other Matters

The Examiner has objected to claims 30, 31, 34 and 35 as being dependent upon a rejected base claim. Based on the foregoing remarks, Applicants have traversed the rejection of the base claims from which claims 30, 31, 34 and 35 depend. Therefore, Applicants respectfully request that the objections to claims 30, 31, 34 and 35 be reconsidered and withdrawn.

Conclusion

All of the stated grounds of objection and rejection have been properly traversed, accommodated, or rendered moot. Applicants therefore respectfully request that the Examiner reconsider all presently outstanding objections and rejections and that they be withdrawn. Applicants believe that a full and complete reply has been made to the outstanding Office Action and, as such, the present application is in condition for allowance. If the Examiner believes, for any reason, that personal communication will expedite prosecution of this application, the Examiner is invited to telephone the undersigned at the number provided.

Prompt and favorable consideration of this Amendment and Reply is respectfully requested.

Respectfully submitted,

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